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APR 13 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A spatial light modulator comprising:

a multi-pixel display array on a first die; and

a multi-pixel memory array on a second die, the multi-pixel memory array having pixel storage cells;

wherein at least some pixels of the multi-pixel memory array are disposed outside the display array such that the multi-pixel memory array is physically decoupled from the multi-pixel display array.

Claim 2 (original): The spatial light modulator of claim 1 wherein all of the pixels of the memory array are disposed outside the display array.

Claim 3 (previously presented): The spatial light modulator of claim 1 further comprising:

at least one local pulse width modulation drive circuit coupled to at least one of the pixel storage cells; and

a global counter coupled to the local pulse width modulation drive circuit to provide a global count value thereto.

Claim 4 (original): The spatial light modulator of claim 3 wherein:

the display pixels of the multi-pixel display array comprise first display pixels of a first color, and second display pixels of a second color;

the global counter includes,

a first global counter coupled to the local pulse width modulation drive circuits of the first display pixels, and

a second global counter coupled to the local pulse width modulation drive circuits of the second display pixels.

Claim 5 (currently amended): The ~~apparatus~~ spatial light modulator of claim 4 wherein:

the display pixels of the multi-pixel display array further comprise third pixels of a third color.

Claim 6 (currently amended): The ~~apparatus~~ spatial light modulator of claim 5 wherein:

the global counter further includes,

a third global counter coupled to the local pulse width modulation drive circuits of the third display pixels.

Claim 7 (currently amended): The ~~apparatus~~ spatial light modulator of claim 3 wherein:

the multi-pixel display array includes display pixels of at least two different colors; and

the global counter is adapted to count up to two respective different values and is switcheably coupled to the respective different color display pixels to provide global counter values to their local pulse width modulation drive circuits in a time-slice manner.

Claim 8 (currently amended): The ~~apparatus~~ spatial light modulator of claim 7 wherein:

the multi-pixel display array includes display pixels of three different colors.

Claim 9 (cancel)

Claim 10 (currently amended): A spatial light modulator comprising:

control logic;

a pixel memory array coupled to the control logic and occupying a first area of the spatial light modulator; and

a pixel display array coupled to the control logic and the pixel memory array, and occupying a second area of the spatial light modulator, wherein the first and second areas are physically decoupled and substantially non-overlapping, the pixel display array comprising a

plurality of pixel display cells, each having disposed within its area an associated pulse width modulation driver circuit.

Claim 11 (cancel)

Claim 12 (currently amended): The spatial light modulator of claim [[11]] 10 wherein:

the control logic comprises a counter to provide a count value;

the pulse width modulation driver circuit comprises a comparator coupled to compare the count value to a pixel value stored in an associated pixel array cell of the pixel memory array.

Claim 13 (previously presented): The spatial light modulator of claim 12 further comprising:

means to provide non-linearity in the pulse width modulation.

Claim 14 (currently amended): The spatial light modulator of claim [[11]] 10 wherein the pixel memory array comprises:

more memory cells than the pixel display array has pixel display cells; and

means to provide redundancy in the pixel memory array.

Claim 15 (currently amended): A method of manufacturing a light modulator, the method comprising:

constructing, on a first die and in a first area of the light modulator, a pixel display array including multiple display pixels; and

constructing, on a second die and in a second area of the light modulator that is physically decoupled and substantially non-overlapping with the first area, a pixel memory array including multiple pixel storage cells.

Claim 16 (previously presented): The method of claim 15 further comprising:

constructing, within each of a plurality of the display pixels, a pulse width modulation driver circuit.

Claim 17 (previously presented): The method of claim 16 further comprising:

constructing a counter having an output coupled to each of the plurality of display pixels;

constructing, within each of the pulse width modulation driver circuits, a comparator having a first input coupled to the output of the counter and a second input coupled to receive a pixel data value from the pixel memory array.

Claim 18 (previously presented): The method of claim 17 wherein constructing the comparator comprises:

configuring the comparator to determine whether the pixel data value is greater-than-or-equal-to the counter output.

Claim 19 (previously presented): The method of claim 18 further comprising:

constructing a lookup table to provide non-linear response in the pulse width modulation.

Claim 20 (cancel)

Claim 21 (currently amended): A method of operating a light modulator~~, the method~~ comprising~~, for each respective pixel cell in a plurality of pixel cells in a pixel display array~~:

performing a digital function on a pixel data value and a present counter value to generate one of a first result or a second result wherein a pixel memory array is physically decoupled from ~~the~~ a pixel display array to hold the pixel data value; ~~and~~

in response to the first result, activating ~~the~~ a pixel cell;

in response to the second result, deactivating the pixel cell;

detecting that a pixel memory cell in the pixel memory array is not operating correctly; and, responsively

logically replacing that pixel memory cell with a redundant memory cell.

Claim 22 (previously presented): The method of claim 21 wherein:

the digital function comprises a comparison.

Claim 23 (previously presented): The method of claim 21 further comprising, over time:

incrementing the counter value from 0 to N-1, wherein N is a number of bits of color depth represented in the pixel data value; and then

wrapping back to 0.

Claim 24 (cancel)

Claim 25 (previously presented): The method of claim 21 further comprising:

performing non-linear pulse width modulation.

Claim 26 (previously presented): The method of claim 21 wherein:

the digital function is performed outside the pixel cell.

Claim 27 (previously presented): The method of claim 21 wherein:

the digital function comprises using the present counter value to index into a lookup table.

Claims 28-33 (canceled)

Claim 34 (currently amended): A projection device comprising:

a polarization beam splitter; ~~and~~

a first light modulator coupled in optical contact with the polarization beam splitter, the first light modulator including,

a first pixel display array in a first region of the first light modulator, and

a first pixel memory array in a second region substantially not overlapping the first region of the first light modulator, such that at least a plurality of pixel memory cells of the first pixel memory array lie outside the first region of the first light modulator and the first and second regions are not physically coupled; and

a second light modulator coupled in optical contact with the polarization beam splitter, the second light modulator including,

a second pixel display array in a first region of the second light modulator, and

a second pixel memory array in a second region substantially not overlapping the first region of the second light modulator, such that at least a plurality of pixel memory cells of the second pixel memory array lie outside the first region of the second light modulator.

Claim 35 (cancel)

Claims 36-43 (canceled)

Claim 44 (previously presented): An article of manufacture comprising:

a machine-accessible medium including data that, when accessed by a machine system, cause the machine system to construct the apparatus of claim 10 as a monolithic integrated circuit device.

Claim 45 (previously presented): The article of manufacture of claim 44 wherein the machine-accessible medium further includes data that, when accessed by the machine system, cause the machine system to construct the apparatus of claim 13 as a monolithic integrated circuit device.

Claim 46 (previously presented): An article of manufacture comprising:

a machine-accessible medium including data that, when accessed by a machine system, cause the machine system to perform the method of claim 21.

Claim 47 (previously presented): The article of manufacture of claim 46 wherein the machine-accessible medium further includes data that, when accessed by the machine system, cause the machine system to perform the method of claim 22.

Claim 48 (previously presented): The spatial light modulator of claim 1, wherein the spatial light modulator comprises a liquid crystal on silicon display.

Claim 49 (previously presented): The spatial light modulator of claim 10, wherein the spatial light modulator comprises a liquid crystal on silicon display.

Claim 50 (previously presented): The projection device of claim 34, wherein the first light modulator comprises a liquid crystal on silicon display.

Claim 51 (previously presented): The spatial light modulator of claim 1, wherein each of the pixel storage cells is associated with one pixel of the multi-pixel display array.

Claim 52 (currently amended): The spatial light modulator of claim [[11]] 10, wherein each of ~~the~~ a plurality of pixel memory cells is associated with one pixel display cell of the pixel display array.

Claim 53 (currently amended): The projection device of claim 34, wherein each of the pixel memory cells of the first pixel memory array is associated with one pixel display cell of the first pixel display array.

Claim 54 (new): The spatial light modulator of claim 1, wherein the first die is formed using a first semiconductor technology and the second die is formed using a second semiconductor technology.